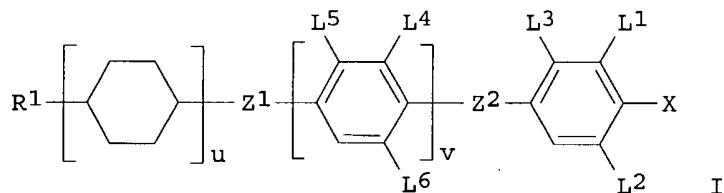


AN 2004:268275 CAPLUS
 DN 140:278573
 ED Entered STN: 02 Apr 2004
 TI Liquid crystalline medium showing improved physical properties for liquid crystal display
 IN Kirsch, Peer; Lenges, Marc; Heckmeier, Michael
 PA Merck Patent G.m.b.H., Germany
 SO Ger. Offen., 78 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 IC ICM C09K019-42
 ICS C09K019-30; C07C069-92; G02F001-13
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 75

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10344228	A1	20040401	DE 2003-10344228	20030924
	US 2004075081	A1	20040422	US 2003-673477	20030930
	JP 2004149774	A2	20040527	JP 2003-339336	20030930
PRAI	DE 2002-10246117	IA	20020930		
OS	MARPAT 140:278573				
GI					



AB The title liquid crystalline medium based on a polar compound mixture contains one or

more compds. represented by general formula I (R1 = C1-12-alkyl, etc.; A = 1,4-trans-cyclohexylene, 1,4-phenylene, etc.; L1-6 = H, F; Z1, Z2 = -COO-, -CF2O-; X = F, Cl, CN, etc.; u, v = 1, 2). Synthesis examples and mixture examples are described.

ST nematic liq crystal mixt display synthesis

IT Liquid crystal displays

(liquid crystalline medium showing improved phys. properties for liquid crystal display)

IT Liquid crystals

(nematic; liquid crystalline medium showing improved phys. properties for liquid crystal display)

IT 4856-04-6 80944-44-1 84540-37-4 87941-72-8 92263-41-7 97398-80-6
 102714-93-2 102714-95-4 131819-23-3 132123-39-8 132123-45-6
 133914-49-5 133937-72-1 135734-59-7 135734-60-0 137810-19-6
 139215-80-8 139395-96-3 139395-98-5 142400-92-8 173837-35-9
 174805-87-9 175859-25-3 181943-55-5 205806-87-7 279246-65-0
 281680-30-6 326894-55-7 326894-64-8 432004-53-0 432004-56-3
 674785-89-8

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(mixture; liquid crystalline medium showing improved phys. properties for liquid crystal display)

IT 674778-01-9P 674778-02-0P 674778-03-1P
 674778-04-2P 674778-05-3P 674778-06-4P
 674778-07-5P
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
 engineered material use); PREP (Preparation); USES (Uses)
 (preparation of liquid crystalline medium showing improved phys. properties
 for liquid crystal display)

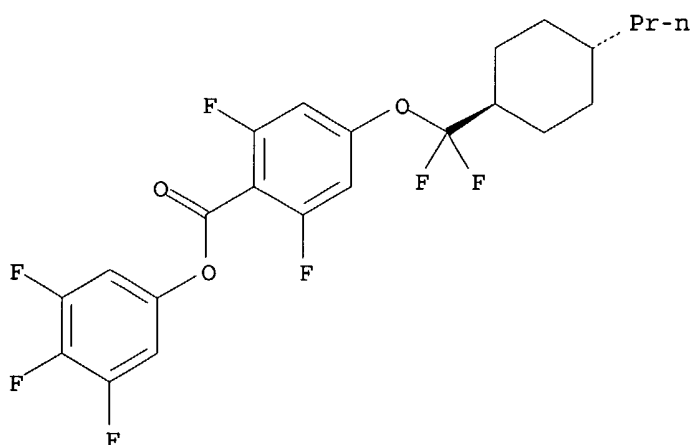
IT 109-80-8, Propane-1,3-dithiol 120-47-8, 4-Hydroxybenzoic acid ethyl
 ester 1493-13-6, Trifluoromethanesulfonic acid 2713-34-0,
 3,5-Difluorophenol 13411-42-2, 2-Trimethylsilyl-1,3-dithiane
 40649-36-3 99627-05-1, 3,4,5-Trifluorophenol 183245-00-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of liquid crystalline medium showing improved phys. properties
 for liquid crystal display)

IT 674777-93-6P 674777-95-8P 674777-96-9P 674777-97-0P
 674777-98-1P 674777-99-2P 674778-00-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation of liquid crystalline medium showing improved phys. properties
 for liquid crystal display)

IT 674778-01-9P 674778-02-0P 674778-03-1P
 674778-04-2P 674778-05-3P 674778-06-4P
 674778-07-5P
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
 engineered material use); PREP (Preparation); USES (Uses)
 (preparation of liquid crystalline medium showing improved phys. properties
 for liquid crystal display)

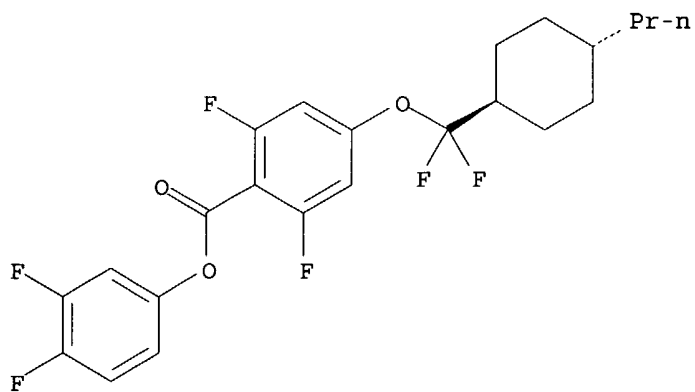
RN 674778-01-9 CAPLUS
 CN Benzoic acid, 4-[difluoro(trans-4-propylcyclohexyl)methoxy]-2,6-difluoro-,
 3,4,5-trifluorophenyl ester (9CI) (CA INDEX NAME)

Relative stereochemistry.



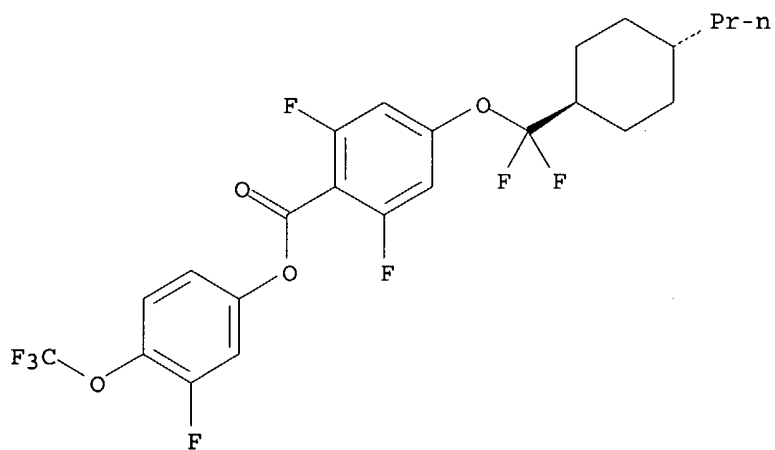
RN 674778-02-0 CAPLUS
 CN Benzoic acid, 4-[difluoro(trans-4-propylcyclohexyl)methoxy]-2,6-difluoro-,
 3,4-difluorophenyl ester (9CI) (CA INDEX NAME)

Relative stereochemistry.



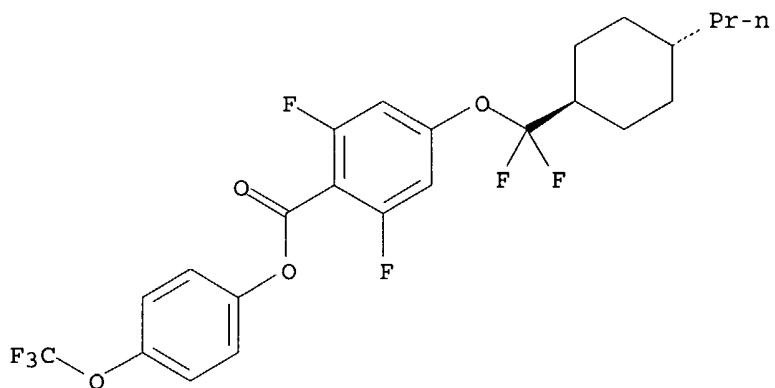
RN 674778-03-1 CAPLUS
 CN Benzoic acid, 4-[difluoro(trans-4-propylcyclohexyl)methoxy]-2,6-difluoro-,
 3-fluoro-4-(trifluoromethoxy)phenyl ester (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 674778-04-2 CAPLUS
 CN Benzoic acid, 4-[difluoro(trans-4-propylcyclohexyl)methoxy]-2,6-difluoro-,
 4-(trifluoromethoxy)phenyl ester (9CI) (CA INDEX NAME)

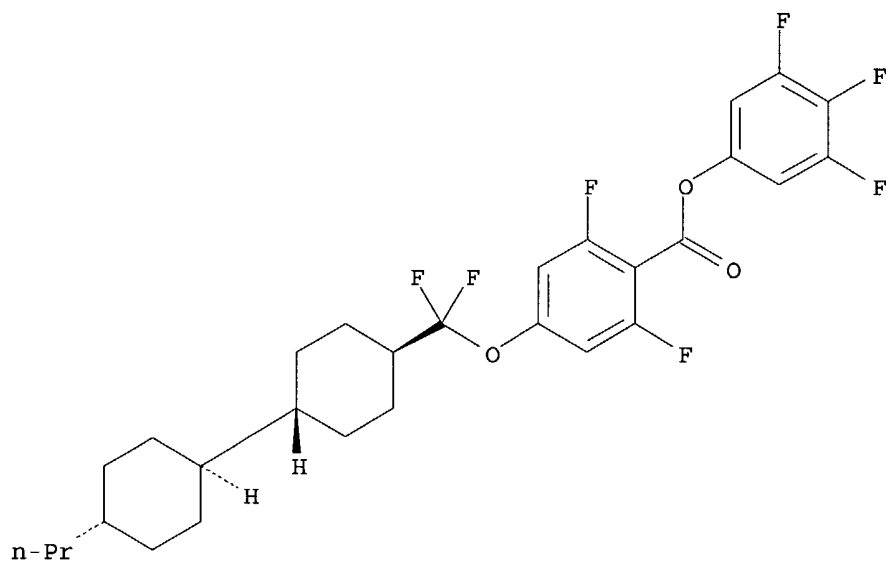
Relative stereochemistry.



RN 674778-05-3 CAPLUS
 CN Benzoic acid, 4-[difluoro[(trans,trans)-4'-propyl[1,1'-bicyclohexyl]-4-yl]methoxy]-2,6-difluoro-,
 4-(trifluoromethoxy)phenyl ester (9CI) (CA INDEX NAME)

yl]methoxy]-2,6-difluoro-, 3,4,5-trifluorophenyl ester (9CI) (CA INDEX NAME)

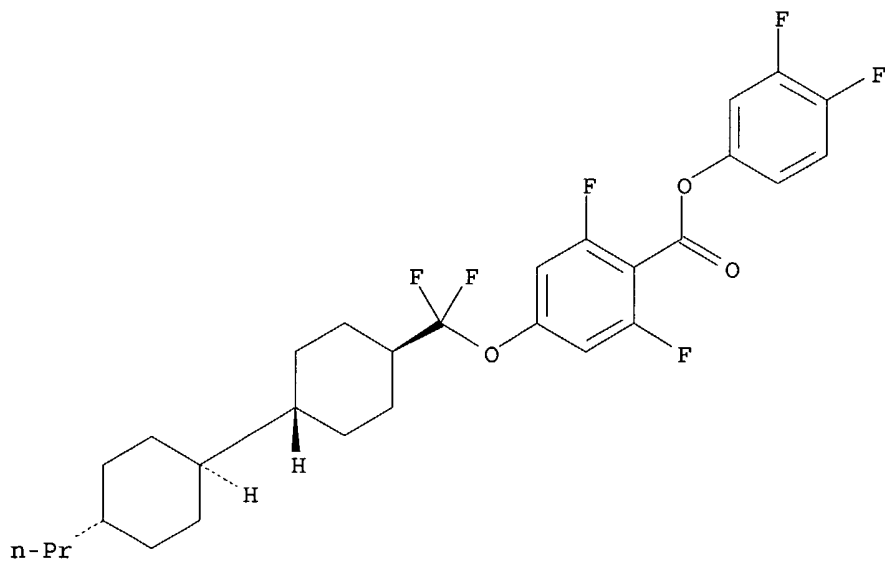
Relative stereochemistry.



RN 674778-06-4 CAPLUS

CN Benzoic acid, 4-[difluoro[(trans,trans)-4'-propyl[1,1'-bicyclohexyl]-4-yl]methoxy]-2,6-difluoro-, 3,4-difluorophenyl ester (9CI) (CA INDEX NAME)

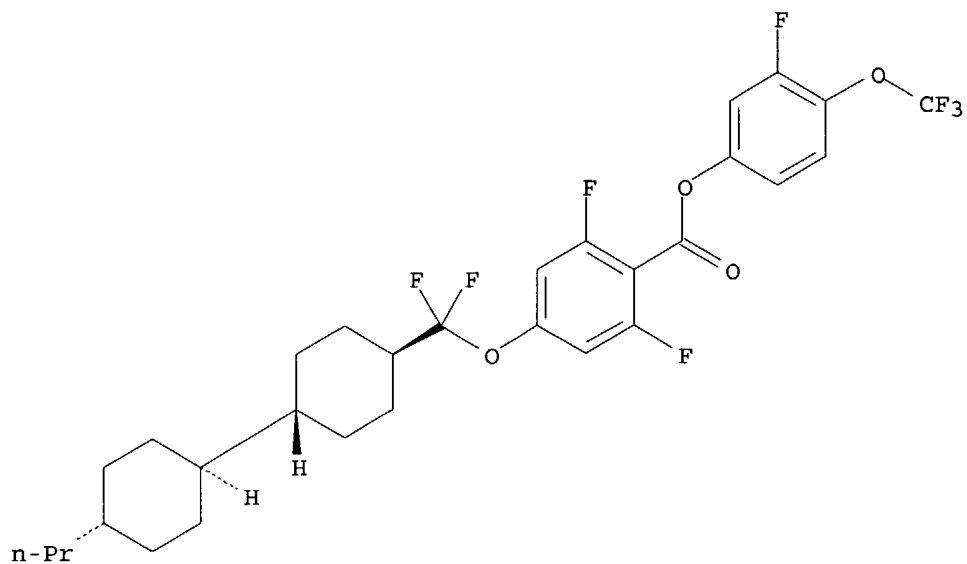
Relative stereochemistry.



RN 674778-07-5 CAPLUS

CN Benzoic acid, 4-[difluoro[(trans,trans)-4'-propyl[1,1'-bicyclohexyl]-4-yl]methoxy]-2,6-difluoro-, 3-fluoro-4-(trifluoromethoxy)phenyl ester (9CI) (CA INDEX NAME)

Relative stereochemistry.



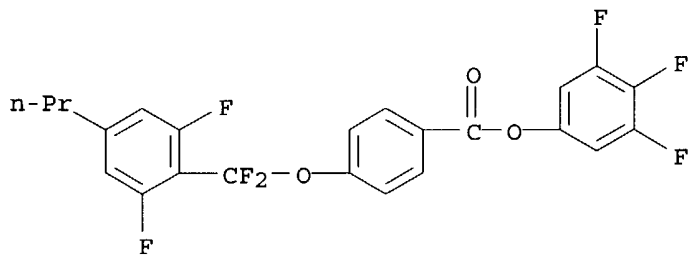
IT 674777-97-0P

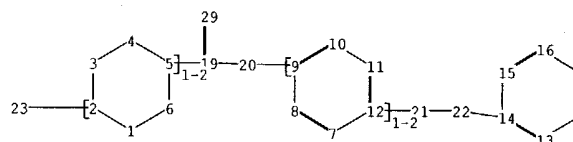
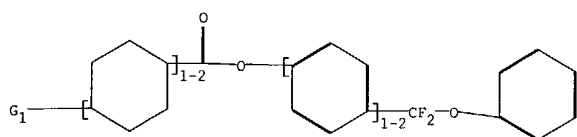
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of liquid crystalline medium showing improved phys. properties for liquid crystal display)

RN 674777-97-0 CAPLUS

CN Benzoic acid, 4-[(2,6-difluoro-4-propylphenyl)difluoromethoxy]-, 3,4,5-trifluorophenyl ester (9CI) (CA INDEX NAME)





chain nodes :

19 20 21 22 23 29

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

chain bonds :

2-23 5-19 9-20 12-21 14-22 19-29 19-20 21-22

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-15
15-16 16-17 17-18

exact/norm bonds :

1-2 1-6 2-3 2-23 3-4 4-5 5-6 9-20 14-22 19-29 19-20

exact bonds :

5-19 12-21 21-22

normalized bonds :

7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-15 15-16 16-17 17-18

1:C,0

atch level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom
12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:CLASS 20:CLASS
21:CLASS 22:CLASS 23:CLASS 29:CLASS